

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-5. (Canceled)

6. (Currently amended) A production apparatus of a titanium oxide film comprising:

heating means for heating a silicon substrate, [[and]]

dispersion heads for discharging independently a gaseous titanium compound for forming a titanium oxide film, a gaseous compound of a dopant element for a silicon semiconductor and an atmospheric gas,

means for introducing the gaseous titanium compound into a first dispersion head, and means for introducing the gaseous compound of a dopant element into a second dispersion head,

~~wherein a distance from bottom ends of discharge ports of the dispersion head for the titanium compound and the atmospheric gas to a surface of the silicon substrate is greater than a distance from a bottom end of a discharge port of the dispersion head for the dopant element compound to the surface of the silicon substrate.~~ means for positioning a bottom discharge end of the first dispersion head for the gaseous titanium compound closer to a surface of the silicon substrate than is a bottom discharge end of the second dispersion head for the gaseous compound of a dopant element.

7. (Currently amended) A production apparatus according to claim [[6]] 8, wherein [[the]] a difference between (i) the distance "A" from the bottom discharge end of the first dispersion head for the gaseous titanium compound to the surface of the silicon substrate, and (ii) the distance "B" from the bottom discharge end of the second dispersion head for the gaseous compound of a dopant element to the surface of the silicon substrate ~~from the bottom ends of the discharge ports for the titanium compound and the atmospheric gas to the surface of the silicon substrate and the distance from the bottom end of the discharge port for the dopant element compound to the surface of the silicon substrate~~ is from 0.1 to 30 mm.

8. (Currently amended) A production apparatus according to claim 6, wherein a partition is provided between the dispersion heads and the silicon substrate, the partition being positioned at a circumference of the bottom ends of [[the]] dispersion ports for the titanium compound and the atmospheric gas, so that the gaseous titanium compound and the atmospheric gas discharged from the respective discharge ports are supplied to the surface of the substrate without dissipation so the concentration of the dopant element in the produced titanium oxide film becomes higher from the surface of the titanium oxide film to the surface of the silicon substrate.

9. (Currently amended) A production apparatus according to claim 6, wherein conveyor means is provided to convey the silicon substrate heated to a predetermined temperature in a direction from a position immediately below [[the]] a discharge port of the dispersion head for the gaseous dopant element, to ~~through~~ a position immediately below [[the]] a discharge port for the gaseous titanium compound, ~~to a position immediately below the discharge port for the atmospheric gas.~~

10. (New) A method of producing a film comprising titanium oxide, the method comprising:

heating a silicon substrate,

introducing a gaseous titanium compound and an atmospheric gas into a first dispersion head, and introducing a gaseous compound of a dopant element into a second dispersion head, wherein discharge ends or ports of the respective dispersion heads are directed toward the silicon substrate in order to form the film comprising titanium oxide, and

positioning a bottom discharge end of the first dispersion head for the gaseous titanium compound closer to a surface of the silicon substrate than is a bottom discharge end of the second dispersion head for the gaseous compound of the dopant element.

11. (New) The method of claim 10, wherein a difference between (i) the distance "A" from the bottom discharge end of the first dispersion head for the gaseous titanium

compound to the surface of the silicon substrate, and (ii) the distance "B" from the bottom discharge end of the second dispersion head for the gaseous compound of the dopant element to the surface of the silicon substrate is from 0.1 to 30 mm, so that A-B is from 0.1 to 30 mm in terms of absolute value.